

**Notice of Allowability**

Application No.

10/771,400

Applicant(s)

PENG ET AL.

Examiner

Art Unit

Gunyoung T. Lee

2875

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/19/2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                 | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment filed on December 19, 2005 has been entered:
  - Claim 8 has been amended.

### *Response to Arguments*

2. Applicant's arguments filed on December 19, 2005 with respect to the rejections of claims 1-20 under 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn.

### *Allowable Subject Matter*

3. Claims 1-20 are allowed.
4. The following is the examiner's statement of reasons for allowance:
5. Claim 1 is allowed because the claim 1 recites a backlight module having "a U-shaped fluorescent tube" with ~~the~~ **heat-dissipating structures** located at **three** distinctive **regions** of the U-shaped fluorescent tube: a) "a **first** heat-dissipating structure enveloping the **curved** tube portion"; b) "a **second** heat-dissipating structure enveloping the **electrode** portion"; and c) "a **third** heat-dissipating structure enveloping the lower half of the **central** portion" of the U-shaped fluorescent tube. This unique heat-dissipating mechanism for a U-shaped fluorescent tube is not taught by the prior art of record, and it prolongs the service time of the fluorescent tube by preventing the

Art Unit: 2875

temperature rising in the fluorescent tube during the operation. The well controlled temperature (at low) in the fluorescent tube effectively reduces the deposit of mercury at the electrode portion of the tube by reducing the sputtering effect, which results in prolonging the lifetime of the fluorescent tube and improving the luminance quality of the backlight module.

6. Claims 1-7 are allowed because of their dependency upon independent claim 1.

7. Claim 8 is allowed because the claim 8 recites a backlight module having "a U-shaped fluorescent tube" with four **heat-dissipating structures** located at **two** distinctive **regions** of the U-shaped fluorescent tube: a) "**first** two heat-dissipating structures respectively enveloping two ends of the **curved** tube portion"; and b) "**second** two heat-dissipating structures respectively enveloping the **electrode** portions" of the U-shaped fluorescent tube. In addition, the claim 8 recites that the backlight module further includes "a **bezel**" having a **horseshoe-shaped slot** and two fixing slots, and the "first two heat-dissipating structures are correspondingly fastened to the horseshoe-shaped slot" and the "second two heat-dissipating structures are correspondingly fastened to the two fixing slots". This unique combination of the heat-dissipating structure at specified locations and the bezel with a horseshoe-shaped slot for the curved portion of the U-shaped fluorescent tube is not taught by the prior art of record. This novel combination prolongs the service time of the fluorescent tube by preventing the temperature rising in the fluorescent tube, since the bezel with a horseshoe-shaped slot and two fixing slots enhances the heat dissipation process by

Art Unit: 2875

providing thermal-conductive connections with the heat-dissipating structures. The well controlled temperature (at low) in the fluorescent tube effectively reduces the deposit of mercury at the electrode portion of the tube by reducing the sputtering effect, which results in prolonging the lifetime of the fluorescent tube and improving the luminance quality of the backlight module.

8. Claims 8-20 are allowed because of their dependency upon independent claim 8.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ukrainsky (US 4,748,546), Lee (US 5,398,170) and Yamashita et al. (US 2005/0243548) show lighting devices having a fluorescent lamp(s) with a heat-dissipating structure(s).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gunyoung T. Lee whose telephone number is (571) 272-8588. The examiner can normally be reached between 7:30 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea can be reached at (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GTL  
2/24/2006

  
Stephen Husar  
Primary Examiner